



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/069,342      | 02/25/2002  | Tatsuya Higuchi      | 0020-4961P          | 8087             |

2292 7590 10/14/2003

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

SIMONE, CATHERINE A

ART UNIT PAPER NUMBER

1772

DATE MAILED: 10/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/069,342

Applicant(s)

HIGUCHI ET AL.

Examiner

Catherine Simone

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation "Y is a saponification degree of methyl ester" is deemed vague and indefinite. Is the methyl ester included in the ethylene-vinyl acetate copolymer? Clarification is requested.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasawa et al. (4,497,856) in view of Kitahara et al. (6,372,870).

Regarding **claims 1-5, 8 and 9**, Iwasawa et al. discloses a laminate comprising a layer of tetrafluoroethylene copolymer, a layer of an ethylene-vinyl acetate copolymer formed on one surface of the layer and a layer of polyolefin resin formed on the layer of ethylene-vinyl acetate

Art Unit: 1772

copolymer (see col. 6, lines 50-60). However, Iwasawa et al. fails to disclose the tetrafluoroethylene copolymer comprising 30 to 81% by mole of tetrafluoroethylene and 70 to 19% by mole of at least one other monomer and having a carbonate group in a polymer chain or at polymer chain terminal, which has a melt flow rate of 0.1 to 100g/10 minutes (230°C, 5 kg-load) and a melting point of 90 to 230°C. Kitahara et al. teaches that it is old and well-known in the analogous art to have a tetrafluoroethylene copolymer comprising 30 to 81% by mole of tetrafluoroethylene and 70 to 19% by mole of at least one other monomer and having a carbonate group in a polymer chain or at polymer chain terminal, which has a melt flow rate of 0.1 to 100g/10 minutes (230°C, 5 kg-load) and a melting point of 90 to 230°C (see col. 23, lines 52-57) for the purpose of producing a laminate with a layer of tetrafluoroethylene copolymer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have the layer of tetrafluoroethylene copolymer in Iwasawa et al. comprise 30 to 81% by mole of tetrafluoroethylene and 70 to 19% by mole of at least one other monomer and having a carbonate group in a polymer chain or at polymer chain terminal, which has a melt flow rate of 0.1 to 100g/10 minutes (230°C, 5 kg-load) and a melting point of 90 to 230°C as suggested by Kitahara et al. in order to produce a laminate with a layer of tetrafluoroethylene copolymer.

Furthermore, Iwasawa et al. fails to disclose the layer of ethylene-vinyl acetate copolymer satisfying the relationship  $X \times Y/100 \geq 7.0$  wherein X is a vinyl acetate content (% by mole) and Y is a saponification degree of a methyl ester (%). However, mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. *In re Wiseman*, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979).

Regarding **claim 6**, Iwasawa et al. also fails to the tetrafluoroethylene copolymer having a critical shear rate of  $10$  to  $10^3 \text{ sec}^{-1}$  at  $230^\circ\text{C}$ . Kitahara et al. teaches that it is old and well-known in the analogous art to have a tetrafluoroethylene copolymer having a critical shear rate of  $10$  to  $10^3 \text{ sec}^{-1}$  at  $230^\circ\text{C}$  (see col. 23, line 63) for the purpose of producing a laminate with a layer of tetrafluoroethylene copolymer. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have the tetrafluoroethylene copolymer in Iwasawa et al. have a critical shear rate of  $10$  to  $10^3 \text{ sec}^{-1}$  at  $230^\circ\text{C}$  as suggested by Kitahara et al. in order to produce a laminate with a layer of tetrafluoroethylene copolymer.

Regarding **claim 7**, Iwasawa et al. also fails to the tetrafluoroethylene copolymer comprising tetrafluoroethylene, ethylene, a fluorovinyl compound of the formula (I):  $\text{CH}_2=\text{CFRf}$  wherein Rf is a fluoroalkyl group having 2 to 10 carbon atoms, and hexafluoropropylene, in which a molar ratio of tetrafluoroethylene to ethylene is from 40:60 to 90:10, the content of the fluorovinyl compound is from 0 to 10% by mole (based on the whole copolymer) and the content of hexane is from 0 to 30% by mole (based on the whole copolymer). Kitahara et al. teaches that it is old and well-known in the analogous art to have a tetrafluoroethylene copolymer comprising tetrafluoroethylene, ethylene, a fluorovinyl compound of the formula (I):  $\text{CH}_2=\text{CFRf}$  wherein Rf is a fluoroalkyl group having 2 to 10 carbon atoms, and hexafluoropropylene, in which a molar ratio of tetrafluoroethylene to ethylene is from 40:60 to 90:10, the content of the fluorovinyl compound is from 0 to 10% by mole (based on the whole copolymer) and the content of hexane is from 0 to 30% by mole (based on the whole copolymer) (see col. 6, lines 15-57) for the purpose of producing a laminate with a layer of tetrafluoroethylene copolymer. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention

Art Unit: 1772

was made to have the tetrafluoroethylene copolymer in Iwasawa et al. comprise tetrafluoroethylene, ethylene, a fluorovinyl compound of the formula (I):  $\text{CH}_2=\text{CFRf}$  wherein Rf is a fluoroalkyl group having 2 to 10 carbon atoms, and hexafluoropropylene, in which a molar ratio of tetrafluoroethylene to ethylene is from 40:60 to 90:10, the content of the fluorovinyl compound is from 0 to 10% by mole (based on the whole copolymer) and the content of hexane is from 0 to 30% by mole (based on the whole copolymer) as suggested by Kitahara et al. in order to produce a laminate with a layer of tetrafluoroethylene copolymer.


Regarding **claims 10-15**, note in Kitahara et al. the different shapes of laminates (see col. 15, lines 57-60).


### *Conclusion*

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Simone whose telephone number is (703)605-4297. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (703) 308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Catherine Simone  
Examiner  
Art Unit 1772  
September 29, 2003

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1112

9/30/03